

**§ 22.367 Wave polarization.**

Public mobile station antennas must be of the correct type and properly installed such that the electromagnetic emissions have the polarization required by this section.

(a) *Vertical.* Waves radiated by the following must be vertically polarized:

(1) Base, mobile, dispatch, and auxiliary test transmitters in the Paging and Radiotelephone Service;

(2) Transmitters in the Offshore Radiotelephone Service;

(3) Transmitters on channels in the 72–76 MHz frequency range;

(4) Base, mobile and auxiliary test transmitters in the Cellular Radiotelephone Service;

(5) Control and repeater transmitters on channels in the 900–960 MHz frequency range;

(6) Rural subscriber stations communicating with base transmitters in the Paging and Radiotelephone Service pursuant to § 22.563.

(7) Ground and airborne mobile transmitters in the Air-ground Radiotelephone Service.

(b) *Horizontal.* Waves radiated by transmitters in the Public Mobile Services, other than transmitters required by paragraph (a) of this section to radiate a vertically polarized wave must be horizontally polarized, except as otherwise provided in paragraphs (c) and (d) of this section.

(c) *Circular.* If communications efficiency would be improved and/or interference reduced, the FCC may authorize transmitters other than those listed in paragraphs (a)(1) through (a)(7) of this section to radiate a circularly polarized wave.

(d) *Any polarization.* Public Land Mobile stations transmitting on channels higher than 960 MHz are not limited as to wave polarization.

**§ 22.369 Quiet zones and Arecibo Coordination Zone.**

Quiet zones are those areas where it is necessary to restrict radiation so as to minimize possible impact on the operations of radio astronomy or other facilities that are highly sensitive to interference. The areas involved and procedures required are as follows:

(a) *NRAO, NRRO.* The requirements of this paragraph are intended to mini-

mize possible interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia.

(1) Carriers planning to construct and operate a new or modified Public Mobile Services station at a permanent fixed location within the area bounded by N.39°15'prime; on the north, W.78°30'prime; on the east, N.37°30'prime; on the south, and W.80°30'prime; on the west must notify the Director, National Radio Astronomy Observatory, Post Office Box No. 2, Green Bank, West Virginia 24944, in writing, of the technical details of the proposed operation. The notification must include the geographical coordinates of the antenna location, the antenna height, antenna directivity (if any), the channel, the emission type and power.

(2) When an application for authority to operate a station is filed with the FCC, the notification required in paragraph (a)(1) of this section should be sent at the same time. The application must state the date that notification in accordance with paragraph (a)(1) of this section was made. After receipt of such applications, the FCC will allow a period of 20 days for comments or objections in response to the notifications indicated.

(3) If an objection is received during the 20-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the FCC will, after consideration of the record, take whatever action is deemed appropriate.

(b) *Table Mountain.* The requirements of this paragraph are intended to minimize possible interference at the Table Mountain Radio Receiving Zone of the Research Laboratories of the Department of Commerce located in Boulder County, Colorado.

(1) Carriers planning to construct and operate a new or modified Public Mobile Services station at a permanent fixed location in the vicinity of Boulder County, Colorado are advised to give consideration, prior to filing applications, to the need to protect the Table Mountain Radio Receiving Zone